



Complications of Myocardial Infarction Questions

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DISCLOSURE

Relevant Financial Relationship(s)

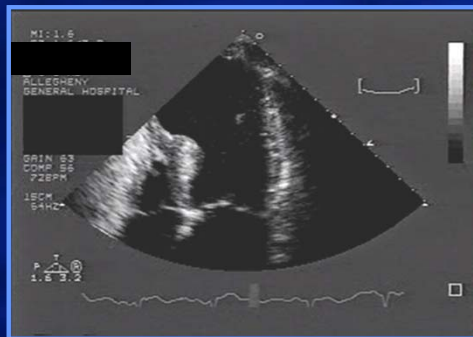
None

Off Label Usage

None

Q1. The post-MI image shown represents:

- A. LV pseudoaneurysm**
- B. LV aneurysm**
- C. Myocardial rupture**
- D. Finding with high risk of rupture**



Q2: Post-MI dynamic LVOT obstruction is most commonly seen with:

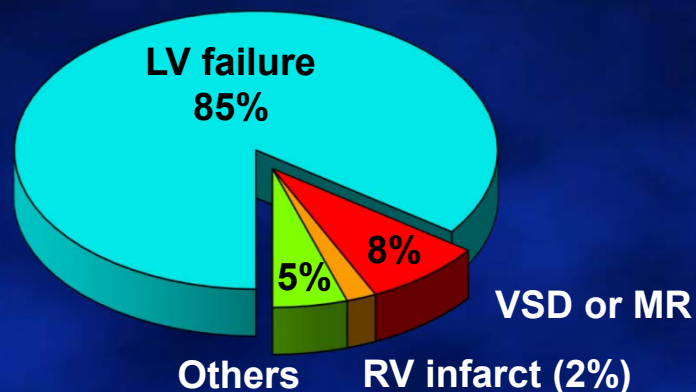
- A. Inferior myocardial infarction**
- B. Lateral myocardial infarction**
- C. Apical myocardial infarction**
- D. Posterior myocardial infarction**

Q3: Which of the following is the most common cause of shock post myocardial infarction?

- A. Ventricular septal defect**
- B. Cardiac tamponade**
- C. Mitral regurgitation secondary to papillary muscle rupture**
- D. Shock secondary to pump failure**

Etiology of Cardiogenic Shock After Acute MI

251 patients from 19 centers



Q4: The incidence of LV thrombus development post-MI in patients with LV systolic dysfunction (EF < 40%) treated with PCI and dual antiplatelet therapy is approximately:

- A.** < 2%
- B.** 2-5%
- C.** 5-7%
- D.** ≥ 10%

Q5: Recent data suggest that surgical mortality for papillary muscle rupture is approximately 10%. Which of the following is true?

Survivors of patient undergoing papillary muscle rupture surgery have a long-term mortality:

- A.** > than those post-MI patients that didn't have a papillary muscle rupture
- B.** < than those post-MI patients that didn't have a papillary muscle rupture
- C.** Similar to those post-MI patients that didn't have a papillary muscle rupture

Cardiovascular Surgery

Clinical Outcome After Surgical Correction of Mitral Regurgitation Due to Papillary Muscle Rupture

Antonio Russo, MD; Rakesh M. Suri, MD; Francesco Grigioni, MD; Véronique L. Roger, MD, MPH; Jae K. Oh, MD; Douglas W. Mahoney, MS; Hartzell V. Schaff, MD; Maurice Enriquez-Sarano, MD

Background—Papillary muscle rupture (PMR) is an infrequent but catastrophic complication of acute myocardial infarction (MI). Although always considered, surgical treatment is often denied because of high operative mortality. Moreover, the effects of surgery for PMR on long-term outcome, particularly compared with expected outcome after MI, are undefined.

Methods and Results—Fifty-four consecutive patients (age, 70 ± 8 years; 74% male) underwent mitral surgery for post-MI PMR from January 1980 through December 2000. Severe presentation (cardiogenic shock, pulmonary edema, or cardiac arrest) was noted in 91% preoperatively. Performance of coronary artery bypass graft was associated with lower operative mortality (odds ratio, 0.18; 95% CI, 0.04 to 0.83; $P=0.011$), whereas there was a trend for lower mortality after surgery after 1990 (odds ratio, 0.28; 95% CI, 0.06 to 1.3). Thus, operative mortality (overall, 18.5%) decreased from 67% up to 1990 without coronary artery bypass graft to 8.7% after 1990 with coronary artery bypass graft. Overall 5-year survival was $65 \pm 7\%$, and survival free of congestive heart failure was $52 \pm 7\%$. Five-year survival of 30-day operative survivors was $79 \pm 4\%$, identical ($P=0.24$) to that of matched controls with MI (similar age, sex, ejection fraction, MI location, and MI year). Survival free of congestive heart failure was similar in PMR cases and MI controls (10-year survival, $28 \pm 8\%$ versus $36 \pm 6\%$; $P=0.46$).

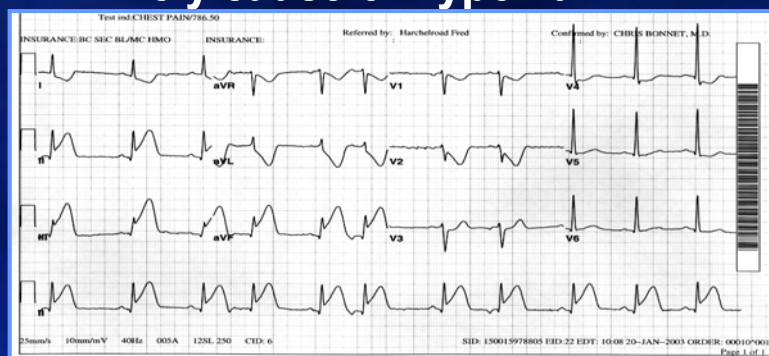
Conclusions—Surgery for post-MI PMR involves a notable operative mortality, but there are recent trends for lower operative risk, particularly with associated coronary artery bypass graft. Long term after surgery, outcome is restored to that of similar MI without PMR. These encouraging observations emphasize the importance of prompt diagnosis and aggressive therapeutic approach for patients incurring PMR after MI. (*Circulation*. 2008;118:1528-1534.)

Years



Adapted from Russo et al.

Q6: A 63 year old female with the EKG below and a normal CXR suddenly develops hypoxia. What is the most likely cause of hypoxia?



- A. Coexistent acute pulmonary embolus
- B. Mitral papillary muscle rupture with pulmonary edema
- C. Right to left shunting through a patent foramen ovale
- D. Methemoglobinemia



Severe RV dysfunction, preserved LV function



MAYO CLINIC

Large PFO



MAYO CLINIC

RV Infarct → Hypoxia Think PFO



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Severe Right to Left shunting

Status-post Right Ventricular Assist Device (RVAD)



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